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(54) Title: GAS-PHASE OLEFIN POLYMERIZATION PROCESS

(57) Abstract: A continuous process for the olefin polymerization in a fluidized bed reactor, said process comprising continuously passing a gaseous stream comprising one or more α -olefin monomers through the fluidized bed in the presence of a polymerization catalyst under reactive conditions, withdrawing polymeric product and unreacted fluids from the reactor, cooling part of said unreacted fluids below the dew point to form a two-phase mixture of gas and condensed liquid and reintroducing said two-phase mixture into the reactor. the process being characterized in that said twophase mixture is reintroduced under the distribution plate of the reactor so that a part of condensed liquid is separated from the gas and is successively fed above the fluidized bed through an external pipe connecting the bottom of the reactor to a point situated above the upper limit of the fluidized bed of polymer particles.